VOL. IV. No. 9.

Entomological News

AND

PROCEEDINGS OF THE ENTOMOLOGICAL SECTION

OF THE

ACADEMY OF NATURAL SCIENCES

OF

PHILADELPHIA.

NOVEMBER, 1893.

EDITOR:
HENRY SKINNER, M. D.
PHILIP P. CALVERT, Associate Editor.

ADVISORY COMMITTEE:
GEO. H. HORN, M.D. CHARLES A. BLAKE.
EZRA T. CRESSON. CHARLES LIEBECK.
Rev. HENRY C. McCOOK, D.D.

PHILADELPHIA:
ENTOMOLOGICAL ROOMS OF
THE ACADEMY OF NATURAL SCIENCES,
LOGAN SQUARE.

1893.

Entered at the Philadelphia Post Office as Second Class Matter.

Entomological News

published monthly, **excepting July and August**, in charge of the Entomological Section of the Academy of Natural Sciences, Philadelphia, and the American Entomological Society.

Annual subscription $1.00, in advance.

Advertiseing Rates: 30 cents per square inch, single insertion; a liberal discount on longer insertions. No advertisement taken for less than 60 cents. Cash in advance.

☞ **All remittances should be addressed to E. T. CRESSON, Treasurer, P. O. Box 248, Philadelphia, Pa.**

BACK VOLUMES.

Those who have not a complete set of **Entomological News** should obtain the wanting volumes **now**, as only a few copies are left over, especially of volume **2**. The prices are as follows:

Volume	I (1890), ...	$1.00 per copy.
"	II (1891), ...	1.50 "
"	III (1892), ...	1.00 "

Address: **E. T. CRESSON, Treasurer, P. O. Box 248, Philadelphia, Pa.**

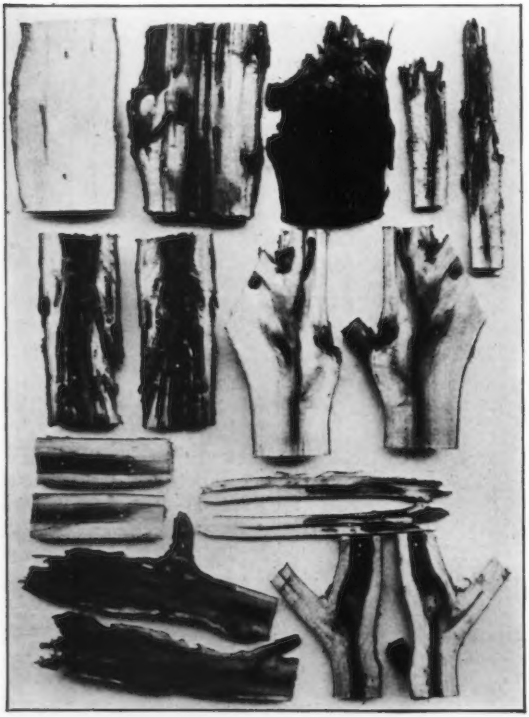
Entomological Publications.

Classification of Coleoptera of North America, by Drs. LeConte and Horn, 567 pp. 1883	$2.50
List of Coleoptera of America N. of Mexico, by S. Henshaw, 1885 .	1.25
First and second Supplements to same, 1887 and 1889, each . .	.25
Synopsis of Hymenoptera of America North of Mexico, by E. T. Cresson. Part I, Families and Genera; Part II, Catalogue of Species and Bibliography, 1887	3.00
Check List of Lepidoptera of Boreal Am., by Prof. J. B. Smith, 1891	1.00
Check List of Hemiptera Heteroptera of N. America, by P. R. Uhler, 1886	.50
Horn (Dr. G. H.)—Revision of the Tenebrionidæ of America North of Mexico, 152 pp. 2 pl. 4to	6.00
LeConte & Horn.—Rhynchophora of N. America, 455 pp., 1876 .	3.00
Scudder (S. H.)—The Life of a Butterfly, 182 pp., 4 pls. . . .	1.00
Guide to Commoner Butterflies of North. U. S. and Canada, 206 pp.	1.25
Banks (N.)—Synopsis, Catalogue and Bibliography of the Neuropteroid Insects of temperate N. Am.; 1892, 47 pp., cuts	.50
Calvert (P. P.)—Catalogue of Odonata of Philadelphia, with introduction to the study of the group; 1893, 124 pp., 2 pls. . . .	1.00

Price-Lists may be had on application.

GEORGE B. CRESSON,

P. O. Box 248, Philadelphia, Pa.



RAVAGES OF CYLLENE ROBINIÆ.

See page 285.

ENTOMOLOGICAL NEWS

AND

PROCEEDINGS OF THE ENTOMOLOGICAL SECTION

ACADEMY OF NATURAL SCIENCES, PHILADELPHIA.

VOL. IV. NOVEMBER, 1893. No. 9.

CONTENTS:

Horn—Amblychila cylindriformis..... 281
Stromberg—Field Notes..... 283
Laurent—Ravages of the locust-borer.. 285
Slosson—Collecting on Mt. Washington 287
Fox—Observations on the genus Neolarra..... 292
Knaus—Notes on sand dune collecting. 293
Editorial..... 296
Economic Entomology..... 297
Notes and News..... 301
Entomological Literature..... 304
Entomological Section..... 308
Ehrmann—A new Hesperid from West Africa..... 309
Dyar and Doll—Lepidopterous larvæ.. 310

Amblychila cylindriformis Say.

By GEO. H. HORN, M.D.

"Are there three species of Amblychila, or two, or only one?" The above line is the text of a short article by Mr. J. J. Rivers, recently published ("Zoe," iv, p. 218, San Francisco, Sept. 19, 1893), in which he accepts two species, *cylindriformis* and *piccolominii*, *baroni* Riv. being the male of the latter.

Some time in the decade ending 1840, Piccolomini returned from a voyage, bringing a number of Coleoptera, which were placed in the hands of Dupont, probably for sale. The collection was visited by Chaudoir, Reiche, La Ferte and Motschulsky, purchases made and species described by these entomologists with the locality "California." After many of the species had been identified it was found that several could not possibly have been collected in California (*Pasimachus* and *Amblychila*) while the aggregate indicated a locality anywhere from western Texas to central Arizona. Moreover, a study of maps of the date showed that the territory indicated in the acquisition after the Mexican war as well as Texas, was then called California. In

regard to *Amblychila piccolominii*, Mr. Rivers speaks of "Dupont's examples." Reiche states that he saw but one specimen, a female. It is probable that the sex was a mere guess, as it is but a few years since the means of sexual distinction was made known.

After Reiche's description Lacordaire expressed the opinion that the insect was not specifically distinct from that described by Say (see Mem. Liege, i, p. 95, 1843), and repeated the same some years later ("Genera," i, p. 8, note, 1854). Mannerheim's reference to the insect carries with it no authority as to locality or specific value, being merely a short description culled from the longer one of Reiche ("Bull. Mosc." 1843, p. 183).

The first specimen of *Amblychila* seen by an American student after Say came to LeConte in 1854, and gave the occasion for some remarks, and finding so many gross inaccuracies in the figures of this and some other species figured by that author, he seems to have been left in an uncertain state of mind.

The next reference to *Amblychila* is by Thomson in his beginning of a monograph of Cicindelidæ (Paris, 1857), in which he figures anew the so-called California specimen. That Thomson saw the Reiche type is known to me, and I can assert that no *other* specimen of *Ambychila* went to Europe until fully ten years after. At this time I will state that the Reiche type was examined by LeConte and myself. Mr. Rivers seems to think that Thomson was influenced in his opinion "by reading the opinions of our two great Coleopterists." As far as LeConte is concerned, he never expressed an opinion until 1859 (Col. Kansas, etc.), and if I can assume to be the second I must here admit that in 1857 I had never seen an *Amblychila*, much less expressed an opinion.

In Mr. Rivers' paper he seems willing to admit that his *baroni* is the male of *piccolominii*. At the same time he gives a photographic representation of the last-mentioned species. From my memory and a drawing I had specially prepared, the true *piccolominii* is still smoother than the one he figures.

These preliminary remarks are intended as the basis of an answer to the question asked by Mr. Rivers. My opinion is that there is but one species of *Amblychila*. This insect is now known to be distributed over a wide extent of country from Kansas to Texas, New Mexico and Arizona. In that range it meets great variations of climate and undergoes the same style of variation

found in many other species in the same range. I might merely mention as an example *Eusattus reticulatus* or *Asida sordida*. Unfortunately, Mr. Rivers and some of my French friends, have had for comparison the large, fully-developed and rough forms from Kansas and the smaller and smoother forms from the other limit of its distribution. Were it possible for me to gather in one series the specimens I have seen from the intermediate points of distribution and which are now scattered in the various collections, I think the evidence would be as clear to all who are at present skeptics as it was to me and to LeConte some years ago that there is but one species of *Amblychila* which varies from climatic causes along its thousand miles of distribution.

———o———

FIELD NOTES.

By C. W. STROMBERG.

In the Winter of 1891 a few weeks were spent near Carlisle, Ark., where a part of the time was devoted to collecting Coleoptera, and, as collectors are scarce in those parts, I thought I would report results, hoping others might become interested in the region.

To go into any part of the South during Winter for the sake of collecting insects every one knows would not pay, but I believe that an energetic collector spending a Summer in any part of Arkansas, and especially where he has both prairie (wild and cultivated) and forest for his field, will reap a rich harvest in the way of rare and interesting specimens in any of the orders of insects.

The country (January 2d), after leaving Little Rock and before reaching the prairie region, presented a picture so dreary and discouraging that I gave up all hopes of finding anything at that season to enrich my cabinet. The fields were covered with water. Flat timber lands were everywhere submerged. Cabins seen here and there were surrounded by the muddy fluid and corncobs, chips and all kinds of rubbish were floating about in the dooryards. Occupants of the cabins were grouped in the doorways and they looked gloomy enough; even the cattle seemed to have the blues. But the country improved in nearing the prairies. Although there was a great deal of water on the flat lands, enough of the land was rolling to make a variety, and here

one's spirits will rise, for birds are abundant, northern Summer birds. Surely where there are so many insect-loving birds, insect life must not be lacking. The soil here is sandy, and is underlaid with "hard pan." The ground, therefore, is hard and firm after the heavy rains.

I will not take up valuable space with a list of all the small species in the way of Staphylinidæ, Histeridæ, Elateridæ, Chrysomelidæ, Anthicidæ and several families of bark beetles that were taken under bark on trees, under boards and rails in the meadows and by sifting old leaves and rubbish from fence corners, bases of trees, etc., but will limit myself to the Carabidæ mostly, which are my favorites. Of water beetles there were none. Only one little specimen of *Hydrophilus nimbatus* Say was captured, but a few Gyrinidæ were seen on warm days.

The first day after arrival, being bright and warm, brought out large numbers of insects. Nearly three hundred specimens were taken during a forenoon in a pasture including *Tachys ænescens* Lec. which were under bits of bark in wet places, and were mostly immature. *Lebia abdominalis* Chd., *pulchella* Dej., *depicta* Horn and *Epipocus discoidalis* Lec. were clinging to the underside of rails near an old fence. *Platynus limbatus* Say, *punctiformis* Say, *Aspidoglossa subangulata* Chd., *Pterostichus tumescens* Lec., *Evarthrus orbatus* Newm. were under bits of wood, etc.

Platynus striatopunctatus occurred under logs near a hay-shed. Chrysomelidæ were numerous on rising ground, where they had probably been driven by the water. On an old pine was found a large *Sandalus* (*niger?*) perfect, though dead, and under the bark were a few *Gynandropus* (*elongatus?*); this species was quite common, it occurred on the trunks of trees often many feet above the ground.

Collecting one day along a roadside thirteen specimens of *Chlænius viduus* Horn were secured. They were under rails and among the rotten wood. Several *Panagæus fasciatus* Say were also taken. Much collecting was done in the woods, where I took one day, under bark, that rare and beautiful *Platynus quadrimaculatus* Horn. Working persistently I soon had the pleasure of seeing specimen number two in my bottle. I also took in the same way a pretty little *Badister* (near *elegans*).

By wearing rubber boots and wading into the bayous many interesting things were taken on stumps, under the bark and on

floating logs. Among the leaves near the water *Bradycellus linearis* was common. It was often found among leaves on ground that had been covered with water for several days or weeks at a time. *Loxandrus*, of which there were several species, did not seem to object to water either. They were everywhere in the wet woods.

Coptodera ærata Dej. was taken once under bark, and the bright little *Hister æniomicans* Horn and *venustus* Lec. were dug from crevices in oak bark. *Dicerca lurida* Fab. might have been gathered by the pint. Sometimes a whole handful was taken (but not kept) from under the loose bark of a large tree.

Burnt over districts in the woods yielded many *Platynus errans* and *Cryptobium* sp. *Pinophilus* (*opacus?*) was the most common of all the Staphylinidæ.

To the kindness of Mr. Henry Ulke I am indebted for the names of the above species.

———o———

RAVAGES OF THE LOCUST BORER.

By PHILIP LAURENT, Phila.

On September 17th of the present year my neighbor, Mr. Horace Rodd, called my attention to a grove of young locust trees (*Robinia pseudacacia*) growing a short distance from his home at Mt. Airy, Pa. The trees varied from one to six inches in diameter, and not one of them but what showed the distinctive work of the locust-borer (*Cyllene robiniæ*). Many of the trees were completely honey-combed by the larva of this destructive beetle. With the aid of Mr. Rodd I secured sections of some of the trees, some of which are represented on the plate accompanying the present number of the NEWS. Figures 1, 2 and 3 (read figures beginning from upper left hand corner) were cut from a tree five inches in diameter that had but lately succumbed to the ravages of the borer. The other figures represent sections cut from limbs and branches; no part of the tree is exempt from their attacks, excepting the smaller twigs and leaves. In a field close by I found the beetle feeding on the golden-rod (*Solidago*), there were hundreds of them; in some cases I counted as many as ten specimens on one stalk of golden-rod. For many years the locust borer and hickory-borer were thought to

be one and the same insect, but the investigations of Mr. Benj. D. Walsh proved this to be a mistake. As preventive measures it has been suggested to soap the trees about the end of August or early in September, just previous to the emerging of the beetles, which occurs during September, also the employing of children to gather the beetles by hand; if this latter means is used the children should be instructed to gather the beetles from the trees and not from the golden-rod, as stated in an article which I read a short time ago, otherwise it would prove to be a case of locking the stable door after the horse is stolen.

If any of the readers of the NEWS desire more information concerning the insect here treated of I can refer them to the following papers: "Harris' Insects Injurious to Vegetation," Flint edition, 1880, pp. 103–4. "The Practical Entomologist," January, 1866, vol. i, pp. 28–29,—An article entitled Borers, by Benj. D. Walsh. "Trans. of Amer. Ent. Soc." May, 1880, vol. viii, p. 136,—Notes on some Genera of Cerambycidæ, with descriptions of new species, by Dr. George H. Horn.

The following articles also contain more or less information on the subject, though in some cases it is but a repetition of what has been published in the three articles first mentioned: "Insects Injurious to Forest and Shade Trees," by A. S. Packard, Jr., 1881, p. 95. "Canadian Entomologist," December, 1877, vol. ix, pp. 223–4,—A few Common Wood-boring Beetles, by Rev. C. J. S. Bethune. "Canadian Entomologist," August, 1880, vol. xii, pp. 151–2,—"Entomology for Beginners," by R. V. Rogers, Jr. "Canadian Entomologist," September, 1882, vol. xiv, p. 200,—An article by J. Alston Moffat, "Canadian Entomologist," November, 1882, vol. xiv, p. 240,—An article by Dr. Geo. H. Horn. Annual Report of the Entomological Society of Ontario for the year 1874, pp. 13–4; also for the year 1877, pp. 24–5. Fifth Report of the U. S. Entomological Commission, Department of Agriculture, pp. 355–8. "Bulletin of Buffalo Society of Natural Sciences," April 10, 1874, vol. ii, p. 96, mention of the capture of *Cyllene robiniæ* at Lake Pontchartrain, Louisiana.

THE *Union Medicale* recommends a mixture of equal parts by weight of powdered ipecac, alcohol and sulphuric ether as an application for insect bites.

COLLECTING ON MT. WASHINGTON.—Part II.

By Annie Trumbull Slosson.

Some years ago as I was going up the mountain by rail a young man connected with the Summit House spoke to me and said he hoped I could tell them up there the name of a red bug infesting the house. On my arrival I was told that there had been much complaint from guests because of the supposed presence of that unpleasant little creature, *Acanthia lectularia*. But the "red bug" proved to be that pretty little Chrysomelid, *Galerucella cavicollis*. It was there in great numbers, covering the windows, lighting on the walls, crawling on the floors. This season I saw very few of that species, but *Galerucella decora* seemed to have taken its place. I took scores of these, and they were brought to me daily by friends. The two "lady bugs," *Coccinella trifasciata* and *C. transversoguttata*, were also very common. The former, at least, breeds not far below the summit, for I found one specimen just emerging from the pupa skin which hung on one of the alpine sedges growing not two hundred feet below the top of the mountain. The larvæ can probably find plenty of food, as there are aphides even on the summit. Mr. Mann, in "Psyche," vol. i, p. 183, speaks of plant-lice which "infested the branches of birch trees," and "had produced an appearance like a snow-storm around the Summit House."

Flowers were scarce at the time of our first visit. The golden-rod was hardly in bloom, some of the earliest alpine flowers had gone by, and the little mountain sandwart, *Arenaria groenlandica*, was for some reason less plentiful than usual. But on the slope down into the alpine garden I found some golden-rod, a little Clintonia, goldthread, the white potentilla and a few other plants in bloom, and around these I took a few moths. *Anarta melanopa* and *A. schoenherri* were here, and also higher up among the rocks, a little brown and white tortricid, *Sciaphila moeschleriana* fluttered about, and I captured several; also two or three specimens of the geometrid, *Eupithecia cretaceata*. About these same blossoms, or on leaves, I caught several of the Lampyridæ, *Telephorus rotundicollis*, *Podabrus diadema*, *Lucidota atra*, *Ellychnia corrusca*, *Cænia dimidiata* and *Pyropyga decipiens*. Hymenoptera were scarce, though I saw three or four specimens of *Bombus pennsylvanica* and a few Parasitica. Of these last Mr.

G. C. Davis pronounces two or three "probably new," and others very rare. The absence of *Plusia vaccinia* about these flowers was surprising, as I had never failed in previous visits at this season to take at least a few. But I saw none at this time.

Argynnis myrina was very common, and specimens were brought me every day by willing, but inexperienced collectors in hopes of their proving to be *A. montinus*.

Water beetles of a few species were not uncommon in the little pools between the rocks near the summit and at the side of the carriage road. Here I found *Hydrophilus mixtus*, *Hydrobius fuscipes*, *Creniphilus subcupreus*, *Cymbiodyta fimbriata* and an *Agabus*, probably *confinis*. Some of these same species were also brought me by the trappists from the lake of the clouds, and the sphagnostic found crawling out from the sphagnum he gathered in that same water many specimens of a tiny *Hydroporus*, species yet unascertained. *Bidessus affinis* was very abundant everywhere. One species of *Hygrotrechus*, of the family popularly called water-boatmen or water-skaters, was also very plentiful in the pools and on the lake. It is a reddish form, probably *H. rufoscutellatus*. These little pools are also good hunting ground for other than aquatic insects. Beetles, bugs, ichneumons and small moths are blown from the sedges or rocks into the water, and I have taken many such, struggling on the surface or floating there lifeless.

Of course any one seen carrying a butterfly net or poison bottle about the rocky top of Mt. Washington meets many a scoff and jeer from the ordinary tourist—"Catching mosquitoes?" asks one, sarcastically; "going fishing," calls out another, while the more sober minded ones ask seriously if I really expect to find any insects in such an unlikely spot.

It is certainly wonderful how many forms of animal life exist in this bleak, barren, frigid region. At times the very air seems alive with minute insects, dancing like motes in the sunshine. You can scarcely turn over a single one of the stones which lie so strangely scattered over the whole cone or summit without finding under it many and various insects, beetles, larvæ, flies, mites, spiders and ants, some so minute as to be scarcely visible to the unassisted eye. The grass and sedge growing between the rocks are alive with small leaf-hoppers, at least one of these, taken on this visit, is a new species, so Mr. Van Duzee tells me,

a small Jassid. And there are always a great many flies, principally Muscidæ and Tachinidæ. I have never seen a day so cold or stormy that there were not some of these bluebottles buzzing about the rocks or bumping against the house or barns. Mr. C. H. T. Townsend, to whom I sent some of these, pronounces them "of great interest."

The red-legged grasshopper is plentiful, and I saw one of the red-winged (*H. tuberculatus*) also *C. viridifasciata*, and two or three species of *Tettix* and *Tettigidea*. I took only two dragonflies this time, both belonging to the Agrionina. These were flying in Alpine Garden. Others were seen, but not captured, around Lake of the Clouds. A *Chrysops* and two or three Phryganidæ were also found.

The stones themselves are resting places for flies and other insects, while several species of spiders crawl over them by hundreds. It is out of place in an entomological journal, I suppose, to say much of other forms of animal life, but I may just hint at such.

There are chipmunks here; one of them became very tame last Summer, and came daily to be fed, taking nuts or grain from those he knew or trusted. After his long Winter's sleep in that frozen clime he might well have been excused for forgetting his old acquaintances, but he remembered. And all this Summer he came again every day, accepting favors as gracefully as ever from his Summit benefactors. While I was there in July a woodchuck was shot by one of our party, on the side of the cone, quite near the hotel, and mice, shrews and moles are not uncommon, as daily visits to the wire traps, with which the mountain bristled during our stay proved. Snowbirds (Junco) fly about and dart in and out among the rocks just around the base. I made a great mistake I suppose in not examining the trapped and shot animals for parasites. I heard, but all too late, that mysterious little creatures were seen running from the bodies of these victims soon after their decease. These may have proved rare alpine forms of *Pulex*, *Pediculus*, *Melophagus* or *Sarcoptes;* perhaps even a new *Platypsilla!*

One must not be too fastidious in the choice of hunting grounds on the summit. One of our favorite insect mines there was the soft-soap barrel near the kitchen door. This sapanaceous bait proved very taking, and we captured there some of our rarest

species. Here were found two or three specimens of *Scotodes americanum* Horn, a pair of *Tetropium cinnamopterum*, *Campylus denticornis*, and the dainty little Longicorn, *Pogonocherus penicellatus;* also flies, bees and ants. Even Medford's shaggy coat proved remunerative, and I took off it, as the grand old dog lay in the sunshine one warm noon, a fine specimen of *Chrysobothris trinervia* which flew and lighted there as I looked on. Several specimens of this Buprestid were taken on the summit. Dr. Packard, in his "Forest Insects," speaks of it as occurring in the pine forests of Colorado, and it is probable that it bores in pine trees, as do so many of its congeners. Some, perhaps many, of these wood-boring beetles found on the summit are brought up in the wood piled near the base for fuel. I have taken *Upis ceramboides*, *Iphthimus opacus* and *Scotobates calcaratus* on these logs in former years and have seen ants running in and out of holes and tunnels here. I searched faithfully for the larvæ or pupæ of the Agrotidæ peculiar to this fauna, but found but two of the latter under moss near rocks. These both were covered with a mould or fungoid growth and did not develop. One larva of *C. semidea* was taken on sedge (*Carex vulgaris* var. *hyperborea*). It was the green form and full grown. It fed well in confinement on its native food-plant while still on the mountain. When I brought it down to Franconia I gave it various species of *Carex* growing near, and it ate indiscriminately of each and all, thus showing a deplorable ignorance of botany, and one day it disgraced itself still more deeply by eating voraciously of blue grass (*Poa pratensis*) apparently quite unable to distinguish between Cyperaceæ and Graminaceæ. But after about three weeks of this varied fare it fell into a stupor and has slept ever since, alive but motionless, in its hybernation I suppose. I came down the mountain on the 14th, after a week's stay. On August 22d I again went up, hoping to find *Argynnis montinus*. I had been waiting at the Crawford House nearly a week for favorable weather. It had been cold and foggy, with much rain and wind all that time. The 22d was cold and bright, with a fair prospect of settled good weather. I had planned for only two days on the mountain this time. The forenoon of the 23d was bright and pleasant, though not very warm, and I did some fair collecting. Six specimens of *Argynnis montinus* were taken, but the week of storm had somewhat dimmed their beauty,

and some of them were quite shabby. In the Alpine Garden, near the head of Tuckerman's Ravine, the golden-rod was in fine bloom, and *Plusia vaccinii* was there in numbers; a few specimens of *Plusia simplex* came also to the flowers. *Vanessa milberti*, perfect, fresh specimens, looking as if just emerged from the chrysalis were flying here, and I took several.

I had seen, when on the mountain in July, under stones near the house, a large reddish mite. This was very common, and I could have taken a hundred. But I knew nothing of the Acarinæ and had no correspondent interested in the family, but at this later visit, having a little vial of alcohol with me, I preserved one specimen; this Mr. Nathan Banks pronounces a new species. I also collected, running on the rocks, a Phalangid (daddy long-legs), which Mr. Banks writes me is new. Two spiders, *Clubiona canadensis* and *Pardosa brunnea*, were very common among the stones and moss; and *Eristalis tenax*, the ubiquitous drone-fly of the lower country was buzzing about among the flowers.

I found another larva of *Chionobas semidea*, the reddish form. But a better discovery than this was that of a hairy larva, evidently an *Arctian*, and unlike anything I have ever seen. Knowing how very few of this group are found on the mountain I hoped that the larva might be that of the fine moth, *Platarctia parthenos*, but Dr. Packard tells me it is not that, and he cannot yet identify it. The larva of *Laria rossii* has been described, and is quite unlike this. It was found crawling on a rock in the Alpine Garden. Not knowing its food-plant I gathered leaves from all the plants and small shrubs near by and gave the caterpillar its choice. It at once selected the mountain bilberry, *Vaccinium uliginosum*, and ate greedily; after bringing it home I tried other species of *Vaccinium*, but it would eat none of them. Then I tried other plants, plantain, dandelion, lettuce, cabbage, but with no success. Later it ate sparingly of poplar and white birch. I have handed over this interesting larva to Dr. Packard, who will describe and have drawings made of it, and then try to carry it through its transformations, so I will not speak of it in detail here. This is no place for a meteorological article, so will not dwell upon the terrible storm of August 24th. It has already become a matter of history. Those of us who watched through the hours of that long night of wild tumult and tempest will not soon forget the experience. There was no collecting that day,

and on the next, when the storm was subsiding, I came down the mountain. I expect to print a complete list of the insects captured during my two visits to the Summit. They have been identified by Mr. Liebeck, Mr. W. J. Fox, Mr. G. C. Davis, Mr. Van Duzee and others. And I am deeply indebted to them all for their assistance. The heaviest burden has devolved upon Mr. Liebeck, as the number of Coleoptera far exceeded that of any other order, amounting to about one hundred and twenty species.

———o———

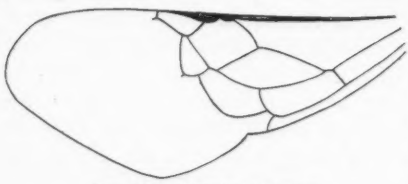
Observations on the Hymenopterous Genus Neolarra Ashm.

By WILLIAM J. FOX.

In the Bulletin of the Colorado Biological Association, No. 1, 1890, p. 8, Mr. William H. Ashmead has described an interesting new genus of the Fossorial Hymenoptera. Through the kindness of the above-mentioned gentleman I have had the opportunity of examining the unique type, from which I have made the observations contained herein and have drawn up the appended description. I quite agree with Mr. Ashmead in stating that it will probably form a distinct tribe of the Bembecidæ (so-called), and go further and believe it to represent a distinct group intermediate between the so-called Bembecidæ and Larridæ. As several authors have demonstrated that the Larridæ and Bembecidæ are not entitled to family distinction, representing nothing but groups of the Sphecidæ, the discovery of *Neolarra* tends to make the assertion stronger. While its affinities to the Bembecites are shown in the strongly protruding labrum and form of the mandibles, yet its relation to the Larrites is evident in the wings, which are not very dissimilar to the genus *Dinetus*. I might state that the type is a ♂, and not a ♀, as supposed by Mr. Ashmead.

Description.—Head as broad as the thorax; mandibles broad at base, narrow and acute at apex, not emarginate on outer margin; labrum triangular, a little broader at base than it is long; the clypeus seems to be divided into three lobes, the middle one being by far the largest, most prominent, and extends up between the insertion of antennæ; eyes rather strongly diverging towards the vertex, their inner margin entire; antennæ short, the pedicel

in length equal to about one-half the length of the scape, the flagellum strongly clavate; ocelli forming a low triangle or strong curve, all three distinct, the anterior one much larger than the posteriors; prothorax hidden by the head in this specimen (the vertex is very long and projects back on the dorsulum) laterally dentate or lobate; the humeral tubercle is very large; scutellum large; metathorax not longer than the scutellum and postscutellum combined, unarmed; abdomen elongate-ovate, a little longer than the head and thorax united; last dorsal segment without a pygidial area; tibiæ not spinose, the middle pair with but one spur at apex, as are likewise the anterior and posterior pairs (*teste Ashmead*); for tarsi without comb, the first joint possessing some stiff hairs; wings ample, with one very short marginal cell, which is truncate, and has a short appendiculation, two submarginal cells, the first of which is over three times longer than the second, which is narrowed above, and is about twice higher than it is broad beneath; first recurrent nervure received by first submarginal cell before its apex, the second received by the second submarginal at about the middle; stigma large.



Fore wing of *Neolarra pruinosa*.

NOTES ON SAND DUNE COLLECTING.

By W. Knaus.

For the past three years I have collected Coleoptera during May among the sand dunes bounding the valley of the Arkansas River on the north, and twenty miles southwest of McPherson, Kans. The ridge of sand hills is broken, and immense excavations have been gradually cut out by the strong winds which leave the white sand piled in huge dunes at the northern and southern extremities of these "blowouts." The margins of these dunes seem to be a favorite resort of Cicindelidæ, and in the bottoms of the "blowouts" in the mornings are to be found numbers of Coleoptera, blown around at the sport of the wind currents.

My first collecting was done May 5, 1891. Before reaching the sand dunes I took a number of *Cicindela vulgaris* and *re-*

panda. At the base of the sand dunes, where vegetation was kept back by the drifting sand, I found numbers of *Cicindela scutellaris*, and associated with them, but less numerous, *C. formosa*. Both of these species occurred less frequently higher up on the dunes, on the hillsides and near the bottom of the "blowouts." On the sides of the dunes I took a single specimen of *Geopinus incrassatus*, two or three other Carabidæ, an *Aphodius*, two or three *Melanotus fissilis*, *Trox æqualis*, a few *Eleodes extricata*, *Anomala binotata* and two specimens of a Euphorid which has since been identified as *Stephanucha pilipennis* Kraatz. Only one other specimen of this species has, so far as I know, been taken in the State, and that was collected this Spring by Prof. E. A. Popenoe, of the State Agricultural College in Manhattan, Kansas.

Beating willows enabled me to take but a single specimen of *Gastroidea formosa*.

A visit a week later added a nice lot of the two species of Cicindelidæ mentioned above, to my duplicates.

The season of 1892 was about ten days later than the preceding and my collecting was done in the latter part of May. I added another beautiful Cicindelid to my list of duplicates, that of *C. venusta*. I found it sparingly associated with the two species taken the season before. In two visits I took only about a dozen specimens, and only in a single restricted locality. This variety occurs in the western part of the State, but to my knowledge it has never been taken in central Kansas, except as here indicated.

The Spring of 1893 was unusually cold and windy, and the sand was piled up higher than usual. The best collecting this season I found to be in the bottoms of the sand "blowouts" from seven to nine in the morning. The Coleoptera in considerable numbers were taken while sluggish from the chill of the night. In this way I took ten fine specimens of *Stephanucha pilipennis*, all either dead or crawling slowly over the surface of the sand; two fine specimens of a shining black *Cremastochilus*, several *Anomala binotata*, one *Anomala minuta*, and a fine lot of *Chalcodermus collaris* which I have no doubt breed in large numbers in the seed-pods of the *Yucca* which occur abundantly along the sides of the "blowouts." The only Carabidæ taken were a few specimens of *Dyschirius globulosis*, *Tachys incurvus*, *Pterostichus erythropus*, *Nothopus zabroides*, *Harpalus herbivagus*,

Stenolophus ochropezus and a *Harpalus* sp. The Chrysomelidæ were represented by a *Graphops nebulosus* and a *Pachybrachys tridens;* the Staphylinidæ, by a *Philonthus varius*, *Philonthus* sp. and a *Stenus* sp. Two or three species of *Saprinus*, a *Limnichus* sp. the only one ever taken in the State. A *Chalepus trachypygus*, several *Lacon retangularis*, and a handsome *Cardiophorus.* Two species of *Blapstinus* near *pratensis;* a *Rhyssematus*, a *Sphenophorus pertinax*, several *S. sculptilis* with another handsome species of the same genus were taken near some large swamp grass.

Cicindela scutellaris and *formosa* were not so numerous this season as usual, and I did not succeed in finding a single specimen of *C. venusta*, although looking for it carefully on two trips. Two or three specimens of *Catalpa lanigera* were also taken on willow catkins. I expect to collect for a number of seasons in this locality and will make additional observations on the occurrence of the rarer species mentioned above.

On Sunday (October 1st) I found a pupa of *Mantispa* (sp. ?), and opened the case before I knew what it was. On being brought into a warm room he speedily showed signs of life, and unfolded his members. One wing, however, was not fully developed, and through this he thrust both his anterior legs. Being unable to release them he went to work deliberately to eat off the offending legs, and when last observed had eaten through more than half of the large femur of one leg. This is the first time I have observed such an act on the part of an insect, although similar instances are recorded of animals caught in traps.—John L. Healy, Chicago, Ill.

Insects Reared from Black Knot, *Plowrightia morbosa.*—From a lot of knots collected in a single garden in Wayne County, Ohio, in April, I reared the following species, the knot being on both cherry and plum.

Hymenoptera: *Bracon fungicola* n. sp., Ashmead, M. S. *Phaenocarpa fungicola* n. sp., Ashmead, M. S. *Glypta vulgaris*, Cresson.

Diptera: *Cecidomyid* sp. ? *Muscid* sp. ?

Lepidoptera: *Sesia pictipes* G. & R. *Euzophera semifuneralis* Walk. *Tortrix* sp.?

Coleoptera: *Hydnocera verticalis* Say.

Besides the foregoing, there were great numbers of Mites of a light color, but the species were not determined. It would be an exceedingly interesting matter to determine just to what extent these insects aided in the diffusion of the spores of the fungus, and how much we are indebted to them for its spread from one locality to another.—F. M. Webster.

ENTOMOLOGICAL NEWS.

Published monthly (except July and August), in charge of the joint publication committees of the Entomological Section of the Academy of Natural Sciences, of Philadelphia, and the American Entomological Society. It will contain not less than 300 pages per annum. It will maintain no free list whatever, but will leave no measure untried to make it a necessity to every student of insect life, so that its very moderate annual subscription may be considered well spent.

ANNUAL SUBSCRIPTION $1.00, IN ADVANCE.

☞ All remittances should be addressed to E. T. Cresson, Treasurer, P. O. Box 248, Philadelphia, Pa.; all other communications to the Editors of ENTOMOLOGICAL NEWS, Academy of Natural Sciences, Logan Square, Philadelphia, Pa.

PHILADELPHIA, PA., NOVEMBER, 1893.

Now that the study of insect life has become of considerable economic importance, and owing to the fact that we have quite a number of professional entomologists in our midst, it is time that more general attention was paid to the condition of our specimens for the cabinet and for study. There are comparatively few people in this country who properly understand capturing, preparing and mounting specimens in all their details. There seems to be no very good reason why this should be so unless it is that most of us are very careless, as it is almost as easy to do the thing the proper way as the converse. The first condition to be observed is to get your specimen without ruining it, and then the following manipulations are comparatively easier, but so seldom properly carried out. The insect should bear at least some relation to the number or size of the pin, and all should be mounted at a uniform height. These and other details are important, and will facilitate study even though it may not be considered necessary by a few, who think anything will do. Prof. Smith says in the last number of the NEWS that as a whole the collections of insects at Chicago are rather disappointing, and we are sorry to say we have heard the same opinion from others. More attention should be given to this subject, and all should strive to improve in this matter. There is an association of American botanists to which the condition of membership is that one must know how to make a specimen which is up to a certain standard (a high one). If such an association were formed among entomologists in this country we fear the membership would be very limited.

NOTICE.—Those who wish to continue their subscriptions to ENTOMOLOGICAL NEWS for the coming year, will please indicate their desire to the Treasurer **before** January 1st next. **No change in price.** We trust that **all** will want to renew, and thus again show their appreciation of the gratuitous work of those conducting the publication.

DEPARTMENT OF ECONOMIC ENTOMOLOGY.

Edited by Prof. JOHN B. SMITH, Sc. D., New Brunswick, N. J.

Greasy Lepidoptera.—In the "Entomologist" for October, 1893, Mr. H. G. Knaggs speaks of having been experimenting with ether for the extraction of grease from insects, and particularly Lepidoptera, and begs that greasy insects be sent him for purposes of experiment. While the subject is perhaps not strictly economic, yet it has an interest for all collectors, even on the smallest scale. It is surprising, however, that in England the use of ether for such purposes should not be known, for it is with us perhaps the most common of the materials used. I have not made any attempt to look over the literature on this subject, but I have found almost universally, that ether is the favorite liquid employed by collectors great and small, and in my opinion it is not even the best. It is certainly effective, but it is not nearly so useful in my experience as chloroform. This latter acts quicker, just as thoroughly, and may be used several times in succession, before it becomes saturated with grease. Indeed, very frequently I do not even immerse the insect in the liquid, but with a medicine dropper simply drip the chloroform on the insect in such a way that it runs from end to end of the specimen, and with a very small expenditure of liquid, nearly or quite all the grease is removed in a very few minutes. For use on a larger scale I have found nothing that is better than a high grade of gasoline. This in the first place is very cheap, costing not more than fifteen cents a gallon, so that it is possible to use it liberally, without feeling that the specimens were costing more than they were worth. Insects of all kinds can be safely immersed in this liquid and left there for an indefinite time without staining or losing color, and when removed the specimen requires but a few moments to become dry and regain its bright appearance.

Experiments on the Pear Midge.—I have in this department several times called attention to this insect, and to the fact that it is gradually spreading through New Jersey. During the past season it has invaded a new county, and I have made a series of experiments as to the effect of certain fertilizing materials upon the insect after it had gone under ground. I reported, some time during the Summer, that in an orchard in which the midge made its appearance last year, the ground was at my suggestion given a heavy dressing of kainit, the land under the infested trees being treated at the rate of nearly a ton to the acre, while the remainder received about half that amount. This Spring that orchard was almost entirely free from the midge, only a very few infested pears being found at the edge of the orchard, where the midges could easily have come on from a neighboring plantation. Immediately adjoining this orchard is another, which was also infested last year, and which was not treated in any way. This Spring there was not a single Lawrence pear in it that

was not full of midge larvæ. The trees set very heavily, and early in June I made a most careful search; not for insects, but for pears that were not infested, and absolutely failed to find a single one that was sound. One tree, not more than thirty feet from the edge of the exempt orchard, was literally loaded with fruit, all of it infested. That not more of the midges came to this good orchard is at first sight surprising, but it is perhaps explainable by the fact that last year there was only a small crop of Lawrence pears and that comparatively few midges matured, and those that did so, found an abundance of opportunity to oviposit, so there was no need for them to migrate. This enormous multiplication induced an earnest appeal to the owner of the infested orchard, was persuaded, when the matter was properly presented, to consent to a stripping of the trees, and for two days bushels upon bushels of the young fruit were picked and destroyed; with it of course the midge larvæ contained in them. For purposes of experiment I collected perhaps two quarts of the infested pears. These I divided into eight parts as nearly equal as it was possible to get them; care being taken that each lot should, as nearly as possible, resemble the other in the proportionate number of large and small examples, so as to make each lot a fair sample of the whole. Eight fruit jars were half filled with sand and one lot of the infested pears was placed in each jar. The pears were left there for several weeks, being moistened very occasionally to prevent their hardening and drying, and to facilitate the escape of the midge larvæ. Late in June, or early in July, the pears in each jar were carefully sorted over, those that had been fully abandoned by the larvæ were thrown away, and those that had not broken open or decayed, were cut to enable the insects to escape from them. Early in August the jars were again overhauled, the ground was found full of larvæ, and the now completely abandoned pears were thrown away. Two of the jars were left as checks; two others of the jars received a small quantity of nitrate of soda; two others an equal quantity of muriate of potash, and two others a somewhat larger quantity of kainit. In each case the dry fertilizer was sprinkled upon the top of the ground; in the one in what would be a light top dressing; in the other in what would be a liberal application of the same fertilizer on a commercial scale. In each case it was intended that natural conditions should be resembled as nearly as possible. A very small quantity of water, just sufficient to moisten the surface of the soil was added after the fertilizers had been applied, and at intervals during the season small quantities of water were added, just sufficient in each case to moisten the soil. On October 6th, all except one of the check jars were examined. In each case the entire contents of the jar was dumped into a large, shallow pan, to which water was added, and the sand was carefully washed. It proved to be easy to separate out all foreign material from the sand, and this foreign material was simply the midge larvæ or the cocoons made by them. In each case all the insect contents of each jar were put into a vial, the vials all of exactly the same size, in order to compare by bulk the number of specimens.

In the check jar there were numerous larvæ in the sand all, apparently of them alive, and there were also a very large number of cocoons containing unchanged larvæ, all of them, apparently, in good condition. In all the other jars there were no living larvæ in the sand, and only a very few badly-dried and shriveled specimens could be found; in none of the other jars was there anything like the number of cocoons found in the first one examined.

Jar number one, containing muriate of potash in a light application, showed no free larvæ, but many cocoons; in bulk about four-fifths of the check lot; but among these, about half of the larvæ within the cocoons were dead.

Jar number two contained double the quantity of muriate. There were nearly as many cocoons as before; but the larvæ contained in them were, fully three-fourths of them, dead.

Jar number three contained nitrate of soda, a light dressing. There were no free larvæ, and of the cocoons, in bulk about two-thirds as many as in the check lot; but in these cocoons not more than ten per cent. of the larvæ were alive; the others were dried and shriveled.

Jar number four contained double the quantity of nitrate. There were about as many cocoons as before, but I could not find more than about five per cent. of living larvæ in them.

Jar number five contained a light dressing of kainit, about as much as in the heavy dressings of muriate and nitrate. There were no free larvæ, and of cocoons in bulk about two-thirds of the check; that is, about the same as in the nitrate, but of living larvæ in these cocoons I found less than three per cent.

Jar number six contained double the amount of kainit. The cocoons in bulk, equaled less than one-third of the check lot, and I found not a single living larva. In other words, in this jar not one-third of the larvæ ever formed cocoons, and of those that did get to this point, all died. I think that this experiment, confirmed by the quite remarkable result shown by the field test, proves that we will be able to control, to a very large extent at least, the injuries from this insect by the proper use of the mineral fertilizers. The application should be made very soon after the larvæ abandon the pears on the trees, and the application should be a very liberal one, and should be made, if possible, just before or during a mild rain; the object being to carry the solution into the soil as soon as possible. It would advantage the orchard, and would probably also add to the benefit to be derived, if in the Spring, at the time the blossoms are forming, a dressing of nitrate of soda be applied. This would reach the few pupæ that might have escaped, and which would be at time leaving the cocoons and working their way to the surface, ready to emerge as imagoes.

Cresent Horse Ranch, Albany, Tex.—I send a specimen of the so-called heel-fly of Texas, *Hypoderma lineata*, bred by me from a larva which I caught as it fell from the back of a Hereford cow. This is, I believe, the

third recorded instance of the metamorphosis of this fly having taken place under artificial conditions. Two years ago, after many failures, I was able to record my success, followed a few weeks later by Dr. Cooper Curtice, formerly of the Bureau of Animal Industry, Washington.

Dr. Curtice has made an exhaustive study of the life-history of this fly known North and East as the oxwarble fly, here as the heel-fly, although their identity was scarcely ever suspected until two years ago. I believe that here the fly invariably deposits its eggs on the hair around the heel, although the popular idea is that the fly actually stings the animal. The cattle lick themselves, thus conveying the eggs into the mouth, the larva making their way in between the walls of the gullet. Here they remain some months, when they finally make their way up to the skin along the back, where they bore through, remaining in the hole a little over two months. When they first reach the skin they are quite white, but gradually color and form somewhat become a dark brown or black, and forcing themselves out of their sacks fall to the ground. The skin of the larva becomes hard and shell-like, and at the end of about six weeks the perfect fly emerges.

Although I know that in Penna. the backs of domestic cattle are often badly infested with these larvæ, showing that the fly is by no means rare, yet I never saw that its presence caused any fright or even uneasiness, whilst here it is so dreaded by cattle as to cause at times heavy loss to stockmen. The time of the fly beginning and ending its attack is very variable. I have seen cattle running from it as early as December, whilst this year up to date (Feb. 15th) I have seen no indication of its presence.

Cattle seem to become absolutely frantic from terror; a steer will be quietly grazing, when suddenly he will spring forward head erect, tail arched, and in a moment he will be madly rushing across the pasture, probably to the creek, into which he will plunge, remaining for hours. If the streams running through the pasture have muddy bottoms many weak animals become mired and perish miserably unless discovered and pulled out. As the fly generally appears towards the close of Winter, when cattle are often comparatively poor and weak, the loss in this way would be very serious but that stockmen have their men ride daily along the banks of any boggy streams in order to rescue mired animals.

When a cow-boy finds one unable to get out he uncoils his lariat, deftly throws it over the horns, gives a turn or two around the pommel of his saddle, and, calling on his pony, the animal, unless very badly mired, is soon on the bank and in safety, and hereafter often comes the most difficult part of the business—*the letting go*. In getting hold the cow-boy has it all his own way, but once the animal is on solid earth again it forgets its former peril, remembering only the terrible wrench to head and neck, and proceeds to get even with its tormentor, with the result that the man has sometimes to drop his rope and ride off trusting to its becoming loosened and dropping off. Can any one suggest the reason why the fly has such terrors for a Texas cow whilst in Pennsylvania she cares nothing for it?—GEO. W. HOLSTEIN.

Notes and News.

ENTOMOLOGICAL GLEANINGS FROM ALL QUARTERS OF THE GLOBE.

[The Conductors of ENTOMOLOGICAL NEWS solicit, and will thankfully receive items of news, likely to interest its readers, from any source. The author's name will be given in each case for the information of cataloguers and bibliographers.]

To Contributors.—All contributions will be considered and passed upon at our earliest convenience, and as far as may be, will be published according to date of reception. ENTOMOLOGICAL NEWS has reached a circulation, both in numbers and circumference, as to make it necessary to put "copy" into the hands of the printer, for each number, three weeks before date of issue. This should be remembered in sending special or important matter for certain issue. Owing to low subscription rate, "extras" will be charged for, and when they are wanted, it should be so stated on the MS. along with the number desired. The receipt of all papers will be acknowledged.—ED.

PICTURES FOR THE ALBUM OF THE AMERICAN ENTOMOLOGICAL SOCIETY have been received from Chas. Fuchs, of California; David Bruce, Brockport, N. Y.; and Chas. Boerner, of Philadelphia. Three interesting pictures were presented by Prof. J. B. Smith. They were groups of some of the members of the Association of Economic Entomologists, and included Messrs. Webster, Howard, Hopkins, Davis, Riley, Summers, Weed (H. E.), Osborn, Gillette, Aldrich and Claypole.

"THE greatest bridge builder in the world is the spider," says the New York Sun. "There is a point on the Meramec River, not far from the Missouri Pacific bridge, where a large spider made a bridge clear across, a distance of over 200 feet. He first sent out a flyer, a sort of kite string, which was carried across the stream by the breeze and lodged in a tree opposite. It was then braced by guys to other branches, and thus fifty feet above the water was a perfect suspension bridge. In comparison with this insect work the Niagara and Brooklyn bridges are trifling."

Prof. A. J. COOK, of the Agricultural College of Michigan, states that the exhibit of insects at the World's Fair, and which was mentioned on page 260, October NEWS, was made by students of the college, three of whom were farmers, two teachers in the public schools, one a student of medicine, and one a professional entomologist, although the specimens collected by the latter were all obtained by him while a student at the college and before he became a specialist in Entomology. The original boxes in which the collections were made were not suitable for exhibition purposes. hence the transfer.

STINGING POWERS OF ICHNEUMONS.—Looking over vol. i of the NEWS, Mr. Gillette's note on page 162, referring to his having been stung by *Ichneumon suturalis*, reminds me of a somewhat similar experience I had with other members of the same family. Some years ago I caught, by hand, a specimen of a large *Cphion* in the room, and it stung me severely enough to cause me to drop it at once. Again, just a month ago, an in-

dividual of the curious *Pelecinus polycerator* after prodding at the palm of my hand for some moments finally succeeded in pricking the skin between two of my fingers. Probably most of the Ichneumonidæ with short ovipositors can inflict a slight wound where the skin is thin, but in both the cases under my observation, as well as in that of Prof. Gillette, there has been no subsequent irritation such as is produced by the poisonous sting of bees or wasps.—H. F. WICKHAM, Iowa City.

THE GUNGOO PEA GIRDLER.—In Notes from the Museum, No. 43, under the title of an enemy of Casuarina, the injury to the branches of that tree by the twig-girdler, *Oncideres pustulata*, was described. It has since been found that Mr. Bowrey's collection of insects in the Museum contains a specimen of this beetle, which is recorded on the label as girdling the branches of the gungoo pea or guango, *Pithecolobium saman*.

Branches which had been girdled accompany the specimen. They are from 11 to 23 mm. in diameter. The beetle and girdled gungoo stems were brought by Mr. J. Goodlet from Maryland, St. Andrew, March 1, 1882, as stated on the labels attached to the specimens. This would indicate that this girdler is not a recent addition to our fauna, but probably a native, which has been in the habit of attacking the gungoo pea, and has recently taken to the Casuarina. The gungoo pea is a large and spreading leguminous tree, originally introduced into Jamaica from the mainland by the seeds being brought by cattle. Its seeds are often used for food. *Oncideres pustulata* is an addition to the list of identified Jamaican Coleoptera.—C. H. TYLER TOWNSEND.

EASTWARD RANGE OF PACIFIC COAST SPECIES.—*Stizus unicinctus* Say described from the centre of the Great Plains, occurs in California, as I am informed by Dr. F. E. Blaisdell, of Coronado. I have myself taken this wasp in Georgia.

Nomia nevadensis Cress. I have received from California, and have myself taken it in Georgia. This species in Western specimens, as those from Dr. Blaisdell, varies greatly in color from black to red, but in the East it is black without variation.

Bombomelecta thoracica (Cress.) [= *pacifica* (Cress.)] I have taken in Connecticut.

Paratiphia albilabris (Spin.), a common species in the Pacific region, occurs in New Jersey, as is proven by a specimen (with dark wings) taken by Mr. Wm. J. Fox Mr. Ashmead has taken the dark-winged variety in Florida, and Mr. Pergande in District of Columbia. *Microbembex monodonta* (Say) in its clouded-winged variety is likewise Eastern.

Isodontia azteca (Sauss.), common in California, I have received from Florida (Dr. Wittfeld), and it has been redescribed under the name *S.* (*I.*) *macrocephala*, from Pennsylvania, by Mr. Wm. J. Fox (ENT. NEWS, i, 137). *Isodontia elegans* (Sm.) occurs in both California and Florida.

WM. HAMPTON PATTON, Hartford, Conn.

AMONG the food-plants of moths, new to science that I have been fortunate in discovering are, of *Alypia mariposa*, the *Clarkia elegans* and *Godetia williamsonii*, on the 15th of April, 1893, and on 20th of May I found *Alypia ridingsii* ovipositing on the *Clarkia rhomboidea*. Mr. H. G. Dyar informed me that they were unknown to science. This cost me a two-day's trip to the old collecting ground I had left to obtain the food-plants of *Alypia mariposa* on June 20th. On my return, June 21st, I discovered a *Lepisesia clarkia* ovipositing on the *Clarkia rhomboidea* and then light on a *Gayophytum diffussum* and tack on the underside of the leaf several eggs in succession, I waited till she flew off and secured about fourteen eggs in a radius of three feet, and afterwards found a *Hemaris cynoglossum* deposit several eggs on *Gayophytum diffussum*, and am raising some of the larvæ.

On the 1st of April last I saw *Nisionades propertius* oviposit on the dark barked prickly leaved live oak buds, and when sprouted they tacked their eggs on the tender leaves.—JOHN B. LEMBERT, Yosemite, Cal.

THE LABOULBENIACEÆ OF N. A.—Prof. Roland Thaxter, who is engaged upon an illustrated monograph of the fungus parasites of insects, the first part of which* was published a few years since, has just issued a fourth preliminary part† on the family Laboulbeniæ, to which the second part of his monograph will be devoted. The group comprises some of the most singular and interesting members of the vegetable kingdom, which, though commonly simple in structure, and minute in size, occupy a very high position among the fungi from the close relationship which their sexual processes bear to those of the highest Thallophytes (the red sea weeds). The plants in question vary from about 75 micromillimetres to a millimetre or more in length, and are all external parasites attached to the integument of certain insects which they do not injure by their presence. The families of Carabidæ and Staphylinidæ are the groups most frequently parasitized in this way, although a number of forms occur on aquatic Coleoptera and a few on Diptera.

Prof. Thaxter's studies of the family have brought to light more than a hundred new forms in addition to the dozen species formerly known, which include numerous new genera, and will form the basis of his monograph. The family promises to be a large and varied one, and in order to make the work as complete as possible, Prof. Thaxter is desirous of communicating with collectors of Coleoptera in various parts of the country with a view to procuring by purchase or otherwise as many *specimens* for examination as possible of riparian Staphylinidæ. Special desiderata are species of *Bledius*, *Lathrobium*, *Acylophorus*, *Philonthus* and their immediate allies. Specimens should be collected directly into alcohol and may be sent to Prof. R. Thaxter (3 Scott Street, Cambridge, Mass.), who would be glad to correspond with any one wishing to assist him in this way, especially if resident in the Southern or Western States.

* The Entomophthoreæ of the U. S. in Mem. Bost. Soc. Nat. Hist. vol. iv, No. vi.
† Proc. Am. Acad. Arts and Sciences, vol. xxviii, pp. 156–188.

Identification of Insects (Imagos) for Subscribers.

Specimens will be named under the following conditions: 1st, The number of species to be **limited to twenty-five** for each sending; 2d, The sender to pay all expenses of transportation and the insects to become the property of the American Entomological Society; 3d, Each specimen must have a number attached so that the identification may be announced accordingly. Exotic species named only by special arrangement with the Editor, who should be consulted before specimens are sent. Send a 2 cent stamp with all insects for return of names. Before sending insects for identification, read page 41, Vol. III. Address all packages to ENTOMOLOGICAL NEWS, Academy Natural Sciences, Logan Square, Philadelphia, Pa.

Entomological Literature.

PSYCHE. Cambridge, Mass., September, 1893.—The primitive number of Malpighian vessels in insects–iv, W. M. Wheeler. On variation in the venation of an Arctian, with notes on other allied genera, H. G. Dyar, 1 pl. Descriptions of new species and genera of West African Lepidoptera, viii, W. J. Holland, fig. Notes on *Gluphisia* other and Notodontidæ ii, A. S. Packard. On a fleshy leaf-gall on scrub oak, C. H. T. Townsend. *Arctia yarrowi* in Canada, T. E. Bean.—October, 1893. Notes on *Gluphisia*, H. G. Dyar. Descriptions of new species and genera of West African Lepidoptera, ix, W. J. Holland, figs. The primitive number of Malpighian vessels in insects, v, W. M. Wheeler.

MITTHEILUNGEN DER NATURFORSCHENDEN GESELLSCHAFT IN BERN aus dem Jahre 1892; 1893.—Alternation of generation among insects, E. Anderegg.

THE CANADIAN ENTOMOLOGIST. London, Ont., September, 1893.—Description of a peculiar new Liparid genus from Maine, B. Neumoegen, figs. The species of *Eucoptocnemis*, A. R. Grote. North American Thysanura iii, A. D. Macgillivray. A new species of *Hypopta*, H. G. Dyar. A new *Lecanium* from Canada, T. D. A. Cockerell. Synopsis of the Dipterous genus *Psilocephala*, D. W. Coquillett. On some Lepidopterous larvæ on *alfalfa*, C. H. T. Townsend. Rearing *Sphinx* chrysalids, J. A. Moffat.—October, 1893. Washington Tenthredinidæ and Uroceridæ, A. D. Macgillivray. Descriptions of the larvæ of certain Tenthredinidæ, H. G. Dyar. Description of the preparatory stages of *Nemeophila scudderi* Pack., H. H. Lyman. A new species of *Oligolophus*, N. Banks. Notes on a polymorphic *Papilio*, W. H. Edwards. The clover leaf weevil, *Phytonomus punctatus* Fabr, in Italy, F. M. Webster. Chalcid parasite from *Ianassa* eggs, H. G. Dyar. *Carterocephalus mandan*, Dr. H. Skinner. Variety of *Prionoxystus robiniæ*, G. A. Ehrmann. New localities for *Papilio homerus*, E. M. Aaron. [Ovipositing of] *Argynnis egleis*, J. B. Lembert. *Hepialus auratus* at Franconia, N. H., Mrs. A. T. Slosson.

THE ENTOMOLOGIST. London, September, 1893.—The West Indian species of *Dactylopius*, T. D. A. Cockerell.—October, 1893. Breeding

exotic Bombyces in 1893, J. Watson. Life-history of *Lycæna ægon*, F. W. Frohawk.

THE ENTOMOLOGIST'S MONTHLY MAGAZINE. London, September, 1893.—Notes on the earlier stages of the Nepticulæ, with a view to their better recognition at this period of their life, J. H. Wood. Observations on Coccidæ No. 6, R. Newstead, figs.—October, 1893. On the genus *Halobates* Esch. and other marine Hemiptera, J. J. Walker. On the habits of *Mesovella furcata* Muls. and Rey., E. A. Butler.

THE OTTAWA NATURALIST. Ottawa, Can., September, 1893.—Notes on Canadian insects, W. H. Harrington, J. Fletcher.

NATURE. London, Sept. 7, 1893.—Insects attracted by *Solanum*, T. D. A. Cockerell.

LE NATURALIST. Paris, Sept. 1, 1893.—Description of a new genus and a new species of the family Halacaridæ or marine Acarines, Dr. E. Trouessart and G. Neumann.—September 15th. *Isaria densa*, a fungus parasite of the white worm; its employment in agriculture in combating *Melolontha*, Dr. Koehler, figs.

COMPTE RENDU. SOCIETE PHILOMATHIQUE DE PARIS, Aug. 12, 1893.—On the labrum of *Agrotis segetum*, J. Chatin.

SCIENCE, New York, Sept. 8, 1893.—Notes on the wood or fallow ant of southeastern Massachusetts, J. B. Woodworth.—September 15th. Insect swarms [Neuropters], C. D. McLouth. *Prosopophora;* a genus of scale insects new to the North American fauna, T. D. A. Cockerell.

ZOOLOGISCHER ANZEIGER. Leipsic, Sept. 11, 1893.—Notes on *Peripatus jamaicensis* Grabh. and Ckll., T. D. A. Cockerell. On commensalism of Pseudoscorpions, H. von Ihering.

HISTOIRE PHYSIQUE, NATURELLE ET POLITIQUE DE MADAGASCAR publiée par Alfred Grandidier. Vol. xx, Hyménopteres, 2e partie Les Formicides, par M. A. Forel. Supplément au 28e fascicule. Pp. 229–280.

LEPIDOPTERA INDICA by F. Moore. London, L. Reeve & Co. Part xv, 1893. Vol. ii, pp. 65–88, pls. 108–114.

ZOOLOGISCHE JAHRBUCHER, vii, 2. Jena, Aug. 15, 1893.—Catalogue of the hitherto described Gallmites, their galls and food-plants, A. Nalepa.

INDIAN MUSEUM NOTES. Vol. ii, 6, Calcutta, 1893.—A conspectus of the insects which affect crops in India, E. C. Coates. Vol. iii, 1 and 2 contain articles on Indian insects of economic importance by E. C. Coates (miscellaneous, locusts), F. H. Blandford (Scolytidæ), W. M. Maskell (Coccidæ), F. Moore (Heterocera), G. B. Buckton (Aphididæ, Psyllidæ), O. E. Janson (Scolytidæ), L. Lethierry (Capsidæ), C. T. Bingham (teak tree pests).

PHILOSOPHICAL TRANSACTIONS of the Royal Society of London (B.) for 1892. Vol. 183, 1893.—A new mode of respiration in the Myriapoda, F. G. Sinclair (formerly F. G. Heathcote).—PROCEEDINGS of the same,

No. 326, Sept. 30, 1893.—The experimental proof that the colors of certain Lepidopterous larvæ are largely due to modified plant pigments derived from food, E. B. Poulton (abstract).

JOURNAL OF THE NEW YORK ENTOMOLOGICAL SOCIETY, September, 1893.—A preliminary revision of the Bombyces of America north of Mexico, B. Neumoegen and H. G. Dyar. Some studies of the fecundity of the apple-leaf plant louse, *Aphis mali* Fitch, F. M. Webster. Notes on spiders, N. Banks. List of the Coleoptera of eastern North America, with special reference to the fauna of New York City and vicinity, C. W. Leng and W. Beutenmüller (cont.).

BULLETIN OF THE U. S. NATIONAL MUSEUM No. 44.—A catalogue, bibliographical and synonymical, of the species of moths of the Lepidopterous superfamily Noctuidæ, found in Boreal America. With critical notes, by John B. Smith, Sc. D., Professor of Entomology in Rutgers College. Washington: Government Printing Office, 1893, 424 pp.

THE ENTOMOLOGIST'S RECORD. London, Sept. 15, 1893.—An explanatory suggestion of the plumose antennæ in the female Lepidopterous pupa, J. H. Wood.

ANNALES DE LA SOCIETE ENTOMOLOGIQUE DE BELGIQUE xxxvii, 8. Brussels, 1893.—Materials for a study of the Stratiomyidæ of Belgium, E. and L. Coucke.

JOURNAL OF THE INSTITUTE OF JAMAICA, I, 7. Kingston, August, 1893.—Notes on the fauna and flora of Jamaica—I, T. D. A. Cockerell. Notes on insect life, E. S. Panton. Notes on some Jamaican Muscidæ, with brief anonymous descriptions of doubtful forms, C. H. T. Townsend. The almond bag-worm, id.

ENTOMOLOGISCHE NACHRICHTEN, xix, 14. Berlin, July, 1893.—Analytic revision of the species of Spilogaster, P. Stein.—17 and 18, September. Brief remark on the significance of the genital appendages for the phylogeny, C. Verhoeff.

SOCIETAS ENTOMOLOGICA, viii, 11 and 12. Zurich-Hottingen, September, 1893.—Some observations on insects [hybrids, nest structure], F. Rudow. Attempt at hybridization, A. v. Caradja.

THE QUARTERLY JOURNAL OF MICROSCOPICAL SCIENCE. London, Sept., 1863.—Notes on the *Peripatus* of Dominica, E. C. Pollard, 1 pl.

JOURNAL AND PROCEEDINGS OF THE HAMILTON ASSOCIATION for session 1892-93, No. ix. Hamilton, Ont., 1893.—Insects injurious to plants, L. Woolverton, figs.

THE GARDENER'S CHRONICLE. London, Sept. 23, 1893.—The Hessian fly [F. Enock]. Insects injurious to forest trees, A. D. Webster, figs.

TRANSACTIONS OF THE AMERICAN ENTOMOLOGICAL SOCIETY, xx, 3, July-September, 1893. Philadelphia, Oct. 2, 1893.—Catalogue of the

Odonata (Dragonflies) of the vicinity of Philadelphia, with an introduction to the study of this group of insects, P. P. Calvert, 2 pls.

ANALES DE LA SOCIEDAD CIENTIFICA ARGENTINA, xxxv, 4-5. Buenos Aires, April-May, 1893.—The genus *Sapromyza* in America, F. L. Arribalzaga.

NEW JERSEY AGRICULTURAL COLLEGE EXPERIMENT STATION. Bull. No. 94. New Brunswick, N. J., July 2, 1893.—Insects injurious to Cucurbs, J. B. Smith, figs.—No. 95. The periodical Cicada, J. B. Smith, figs.

PROCEEDINGS OF THE CALIFORNIA ACADEMY OF SCIENCES (2), iv. San Francisco, Sept. 14, 1893.—Report on some Mexican Hymenoptera, principally from Lower California, W. J. Fox.

SPECIES DES HYMENOPTERES d'Europe et d'Algerie, fondé par Edmond André et continué sous la direction scientifique de Ernest André. 42e Fascicule. Gray (France), Bouffaut Freres. Dated April 1, 1892. Forming pp. 145-208 of tome vi.

BIOLOGIA CENTRALI-AMERICANA. Part cx. London, August, 1893.—Hymenoptera, vol. ii, pp. 177-192, P. Cameron. Lepidoptera-Rhopalocera, vol. ii, pp. 289-296, pl. lxxv, F. D. Godman and O. Salvin. Lepidoptera-Heterocera, pp. 161-184, pl. lv, H. Druce. Rhynchota-Heteroptera, pl. xxxix, W. L. Distant. Orthoptera, pp. 1-8, pl. 1, A. de Bormans.

NEW SPECIES OF NORTH AMERICAN INSECTS DESCRIBED IN THE PRECEDING LITERATURE.

ARANEINA.

Tapinopa bilineata Banks, Jour. N. Y. Ent. Soc. i, p. 128, N. Y., D. C. *Coriarachne brunneipes*, *Oxyopes rufipes*, p. 133, Wash. *O. cinerea*, p. 133, N. H.

DIPTERA.

Psilocephala n. spp. Coquillett, Can. Ent. xxv, pp. 222-229, U. S., Jam.

HEMIPTERA.

Lecanium (*Eulecanium*) *fletcheri* Cockerell, Can. Ent. xxv, p. 221, Ont.
Dactylopius n. sp. Cockerell, Ent., xxvi, pp. 266-268, W. I.
Prosopophora rufescens Cockerell, Sci. xxii, p. 151, N. Mex.

HYMENOPTERA.

Aculeata: n. gen. et spp. Lower California, Fox, Proc. Cal. Acad. Sci. (2), iv.

Pompilidæ: n. spp. Mex., Cent. Amer., Cameron, Biol. Cent.-Am. Hymenop. ii, pp. 177-192.

Tenthredinidæ and Uroceridæ: n. spp. Washington, Macgillivray, Can. Ent. xxv, pp. 237-244.

LEPIDOPTERA.

Dyaria (n. gen. Liparidæ) Neumoegen, Can. Ent. xxv, p. 213. Type *D. singularis*, p. 215, Me.

Hypopta theodori Dyar, *l. c.* p. 220, N. Mex.

Nycteola revayana var. *cinereana* Neumoegen and Dyar, Jour. N. Y. Ent. Soc. i, p. 117, North Atlantic States.

Hesperidæ: n. spp. Mex., Cent. Amer., Godman and Salvin, Biol. Cent.-Amer. Lepid. Rhopal. ii, pp. 289–296.

Geometridæ: n. gen. et spp. Mex. Cent. Amer., Druce, Biol. Cent.-Am. Lepid.-Heter. pp. 161–184.

ORTHOPTERA.

Caloblatta, *Anisopygia* (n. gen. Blattidæ), three n. sp., de Saussure, Soc. Ent. viii, p. 57, Cent. Amer.

Forficulidæ: n. gen. et spp. Mex., Cent. Amer., de Bormans, Biol. Cent. Am. Orthop., pp. 1–8.

PHALANGIDA.

Oligolophus montanus Banks, Can. Ent. xxv, p. 252, Mt. Washington, N. H.

The Entomological Section

ACADEMY OF NATURAL SCIENCES, PHILADELPHIA.

PROCEEDINGS OF MEETINGS.

SEPTEMBER 19, 1893.

A regular stated meeting of the Entomological Section of the Academy of Natural Sciences was held in the Hall, S. W. cor. Nineteenth and Race Streets this evening, Dr. G. H. Horn, Director, presiding. Members present: G. B. Cresson, Ridings, Skinner, Calvert, Johnson and Liebeck. Associates: Fox, Boerner, Westcott, Drs. Griffith and Castle. Mr. Calvert presented to the American Entomological Society some American and European Odonata, among them were specimens of *Lestes eurinus* from Texas, a species which Mr. Scudder states was only known by a unique specimen, but the speaker had received it in some numbers from several localities, including Massachusetts. Another interesting species was *Sympycna fusca*, the only Odonat known to hibernate. Mr. Calvert also referred to the matter of the reduction of postal rates for insects. Dr. Horn stated that he hoped to exhibit, during the Winter, some Coleoptera from the peninsula of Lower California, on which he was working, and which belonged to the California Academy of Sciences. The collection does not contain as many new species as one might naturally suppose. The peninsula, though geographically a part of Mexico, belongs properly to the fauna of Southern California and Arizona, and is not tropical in character. A certain number of species extend all the way from the end

of the peninsula to Montana, which distribution is brought about by river currents. Mr. Calvert remarked that the Odonat faunal distribution confirmed what Dr. Horn had stated in regard to the Coleoptera. The speaker also said that his Summer's work had been mainly of a literary character, and that his work on the Odonata of Philadelphia and vicinity was completed, and in the hands of the binder. The scope of the work was defined in detail. Mr. John L. Healy, of Chicago, was duly elected an Associate of the Section.

Dr. HENRY SKINNER, *Recorder.*

The following papers were read and accepted by the Committee for publication in ENTOMOLOGICAL NEWS:

A NEW HESPERID FROM WEST AFRICA.

By GEO. A. EHRMANN, Pittsburg, Pa.

Tagiades dannatti n. sp. ♀.—Antennæ dark brown; palpi white, tipped with black; abdomen white, except the first three segments on the upper side, which are pale brown. Underside of thorax: abdomen and all the legs pure white. Upperside of primaries: dark brown with a subapical row of five small, oval, transparent spots, and two near the costal nervure above the discoidal cell; the outer one is very minute; there is also one larger triangular spot in the discoidal cell below the two near the costal nervure, and another row of four larger, elongated, transparent spots in the submarginal space near the inner angle, the second from above being the largest; there is also a prominent white dash on the inner margin below the inner angle; fringes brown. Upperside of secondaries: basal area extending upwards and outwards; towards the apex dark brown; there is a broad brown band extending from the costa on the interior median space to the discoidal nervure, here it breaks off very abrupt, then follow two large, triangular and one small, round black spot; this completes the outer margin, then follows a row of eight round, black spots in the submarginal area, the three largest being towards the apex, the rest are of a uniform size; the abdominal margin is pure white, including the whole of the area which extends towards the apex, where it divides into two points; the fringes from the discoidal nervule to the anal angle pure white. Underside of primaries: same as above, but the ground color is of a light brown or fawn; markings the same as above. Underside of secondaries: basal area pale gray, and an additional black spot near the costa, which increases the series to nine, whereas on the upperside there is but eight in the submarginal area, otherwise both sides are the same. Expanse 1¾ inches; ♀ in my collection.

Hab.—Piquinnie Ses, Liberia, W. Africa.

This lovely species shows no relation to the other African forms of this genus, *T. flesus*, etc., but has a closer affinity to those

from Southern Asia; it comes nearest to *T. atticus* Fab., but is much larger, and whereas *T. atticus* has on the upperside of the secondaries a marginal row of four large oval spots, blending into one another and almost forming a complete band, *T. dannatti* has but three, and two of them are triangulated, and all of them widely separated. *T. dannatti* has a submarginal row of spots, which is wanting in *T. atticus;* the last-mentioned row of spots is inclined in position similar to those in *T. gopala* Moore, from India also.

This is without doubt a good and valid species, and seems unique from Africa, as I cannot find anything that corresponds with it in all the literature that I have gone through or the collections I have examined.

I have named this lovely and unique butterfly after my friend, Mr. Walter Dannatt, of Westcombe Park, S. E. London, England, through whose kind liberality I have added some of the most glorious species of butterflies the world contains to my cabinet.

———o———

ON CERTAIN LEPIDOPTEROUS LARVÆ.

By HARRISON G. DYAR and JACOB DOLL.

Deidamia inscriptum Harris.

Head rounded, nearly square as seen in front, median suture depressed above the clypeus over vertex; slightly granular, green with a yellowish line from base of antenna up toward vertex of each lobe, passing to the side and joining the subdorsal line of the body; width 3.6 mm. Body cylindrical, decreasing slightly and gradually in size from joint 5 to the head; joint 12 a little enlarged, with a moderate, normal horn with rudimentary granulations. Segments rather finely 8-annulate; color green, finely dotted with yellowish, especially on the sides, with a pale subdorsal line, which runs evenly to joint 12, where it bends up and ends at base of horn. Spiracles white, with a narrow black edge at each side, but none above or below. Thoracic feet pale testaceous; suranal plate scarcely corneous, pointed behind; lateral anal plates on the last pair of feet not distinct. Length about 40 mm.

Sphinx eremitus Hübner.

Head higher than wide, square on top but narrowing toward vertex, flat before; clypeus small, sutures deep, coarsely shagreened; color deep pitchy brown, with a white line on each side reaching nearly to vertex; ocelli and mouth black; width 5.5 mm. Body cylindrical, segments 8-annulate. On joint 3 anteriorly, dorsally is a fleshy collar-like projection.

Horn stout, moderate, slightly curved, coarsely granular; color blackish, pitchy, thickly covered with little black dots in pale circles; seven oblique lateral pale shades. Thoracic feet, horn and areas around the spiracles black. Thoracic segments (joints 2–4) without dots, smoky-brown; cervical shield area paler, bisected by a pale line into two halves, narrowly lined with black. A black patch on joint 2 posteriorly, partly concealed by the "collar." On joints 3 and 4 behind the collar is a large, elliptical, sooty-black patch, surrounded by a white shade, which is more marked anteriorly, and obtains also on the collar-like projection before the patch. Anal plates moderate, triangular, granular, setiferous, concolorous.

Citheronia mexicana Grote & Robinson.

Penultimate stage.—Head smooth, evenly rounded, dark brownish black, sutures broadly pale; mouth parts, except the jaws, also pale. A few short, pale hairs above the mouth; width 4.3 mm. Body cylindrical; anal feet large, with triangular corneous plates; abdominal feet long, with two rows of elongated, setiferous tubercles. On the body are three segmentary rows of modified processes. Row i on joints 2–13 subdorsal, a single dorsal one on joints 12 and 13 with a subdorsal one each side on the anal plate; row ii lateral on joints 2–13; iii, subventral on joints 2–13 and a small row iv on joints 2–6, 11–13 below row iii. These processes resemble antlers, being furnished with about six thorn-like curving branches; row i on joints 2–4 and 12, about twice as long as the others, thicker and with more branches. Row ii on joints 3 and 4, and i on joint 13 slightly longer than the others, but shorter than these just mentioned. Apices of processes minutely setiferous or bare; edges of the 3 anal plates with smooth conical, setiferous tubercles; color blackish, nearly black; processes all shining black, except the basal half of i and ii on joints 2–4 and the short i on anal plate which are white. In another example the bases of many of the processes are white; spiracles large, black.

Last stage.—Head as before, but the pale area around the mouth spreads over the sides of the lobes; ocelli black; a few very short, but bristly setæ; width 6.2–6.5 mm. Processes and tubercles all proportionately much shorter than before, the longest one scarcely more than half as long as the corresponding ones in *C. regalis*, the branches reduced to short, conical prominences, each with a very short spine at tip; tubercles on feet and anal plates shortenened, rounded, with small setæ; coloration much as before, but the body is paler, appearing to have been blackish olive. A whitish stigmatal shade, defined along the undulations of the subventral ridge. Spiracles large, black. Thoracic feet and anal plates partly pale.

Described from alcoholic specimens.

Euclea indetermina Boisduval.

1832.—Boisd., Cuviers An. King. (Griffith) pl. 103, fig. 8.

viridus Reakirt.

1864.—Reak., Proc. Ent. Soc. Phil. iii, 251.
vernata Packard.
1864.—Pack., Proc. Ent. Soc. Phil. iii, 339.
‡ *chloris* Grote.
1881.—Grote, Papilio, i, 5.

We have before us the larva of the species formerly known as "*Parasa chloris*." It is evidently what is represented in Boisduval's figure. As justly remarked by W. V. Andrews (Psyche ii, 272), the species belongs to *Euclea* from the structure of both larva and imago. Although this larva has been well described several times we present the following condensed notes, since they contain points not previously noticed.

Larva.—Head retracted below joint 2, blotched with red on its lower part, ocelli and mouth dark; joint 2 granular, honey-brown, retracted beneath joint 3. Subdorsal series of horn-like processes on joints 3–13, those on joints 4, 5, 8, 11 and 12 very long (2.5–4 mm.), the ones on joints 3 and 13 moderate, the others short, subspherical; all densely spinulose, urticating. Lateral series on joints 3–4, 6–12 (none on joint 5), short, except the one on joint 4, which is twice as long as the others. Spiracles round, the one on joint 2 usually concealed, the one on joint 5 in line with the lateral processes, those on joints 6–12 much below them. Size of larva 18 x 7 mm. The coloration has been well described, and we would merely note that there are two forms, a red and a yellow one. In the first, the ground color is straw color, the horns, with their ridges, a middle lateral band and subventral one vermillion-red. In the other the ground color is lemon-yellow, the horns and bands also yellow, the short horns tinged with orange.

Arachnis aulea Geyer.

1837.—Gey., Zutr. Ex. Schmett., figs. 913, 914.

Head rounded, as wide as high, scarcely bilobed, flattened before, shining black. Body normal, large, robust; warts large, but low, flattened, circular. Hair very bristly, quite short, but dense, deep, black. Body dark brownish, nearly black, immaculate; warts pale brown, contrasting. Thoracic feet black; abdominal ones blackish vinous. Length of mature larva 45–50 mm.

OBITUARY.

C. N. F. Brisont de Barneville, in St. Germain-en-Laye.

ERRATA.—Vol. IV, No. 8.

Page 255, line 24, for discal *read* dorsal.
" 256, line 18, for save *read* some.

EXCHANGES

Not exceeding three lines free to subscribers.

☞ These notices are continued as long as our limited space will allow; the new ones are added at end of the column, and only when necessary those at the top (being longest in) are discontinued.

Lepidoptera.—Wanted to purchase cocoons and larvæ from different parts of U. S. State name and price.—E. J. Kruegeman, 54 May St., Lake View, Chicago, Ill.

Lepidoptera.—Wanted to exchange, papers on N. Am. Lepidoptera for Noctuidæ or Heterocera generally. Noctuidæ named for privilege of retaining desiderata.—John B. Smith, New Brunswick, N. J.

Coleoptera of N. Am. and Mexico wanted by purchase or exchange; large collection.—Fred. C. Bowditch, Tappan St., Brookline, Mass.

Lepidoptera.—Wanted, *Plusia balluca*, *metallica* and *ampla*; also the Hydrœcias. Have some of the rarer eastern Noctuids for exchange.—Henry Bird, Rye, N. Y.

Coleoptera and **Hemiptera**, European and exotic, also postage stamps of Roumania, offered for American Hemiptera-Heteroptera unnamed.—A. L. Montandon, Strada Viilor filarete, Bucarest, Roumania.

Lepidoptera.—Good exchange or cash given for specimens of *Nadata doubledayi* Pack. Also wanted any of the rarer Notodontidæ and Limacodidæ.—Harrison G. Dyar, 599 Broadway, New York City.

Coleoptera.—I wish to obtain Entomological literature in any language, especially that treating of Coleoptera and for works not in my possession will give good insects from the West and from Alaska, mostly Coleoptera.—H. F. Wickham, Iowa City, Iowa.

Lepidoptera.—I have for exchange *C. semidea*, *A. montanus*, *S. modesta* (imagos and pupæ), and other White Mountain material. The rarer Sphingidæ preferred.—R. Ottolengui, 115 Madison Ave., N. Y.

Lepidoptera (diurnal) of Iowa to exchange for species of same order not in my collect on.—Henry G. Willard, Grinnell, Iowa.

Coleoptera.—Price-lists wanted.—Dr. E. B. Stephens, Plymouth, Mass.

Cynipidæ.—Named or unnamed Cynipidæ wanted by purchase or exchange. Always accompany the flies with their galls when possible.—C. P. Gillette, Ft. Collins, Col.

Orthoptera.—For exchange: Mexican Lepidoptera, unmounted, for literature, in any language, on N. A. Orthoptera. Also Indiana Orthoptera for others from any part of N. A.—W. S. Blatchley, Terre Haute, Ind.

Orthoptera.—I desire to procure, by purchase, exchange, or for identification, specimens of the genus *Spharagemon* from all parts of the country.—Albert P. Morse, Wellesley College, Wellesley, Mass.

Lepidoptera.—Cocoons and pupæ of the rarer moths, *luna*, *imperialis*, *regalis*, *P. fraterna*, *P. pithecium*, etc.; also many fine set specimens; hybrids from *selene* et *luna*, *ceanothi* et *cecropia*, *Gloveri* et *cecropia*. List exchanged.—Emily L. Morton, Newburgh, N. Y. (New Windsor delivery).

Lepidoptera.—Prepared larvæ, live pupæ, Coleoptera and Reptiles from America desired in exchange for species of Europe.—A Voelschow, Schwerin in Mecklinburg, Germany.

Lepidoptera.—I wish to exchange large, sound pupæ of *Cecropia* and *Polyphemus* for pupæ or imagines of almost any other species of Lepidoptera.—James Tough, 234 S. Water Street, Chicago.

Lepidoptera.—American diurnals wanted. Will buy or exchange. Hesperidæ and Lycænidæ especially desired.—Henry Skinner, Academy of Natural Sciences, Logan Square, Philadelphia, Pa.

Lepidoptera.—A few rare Indian Lepidoptera to exchange for rare species from the Northwest.—Levi W. Mengel, Reading, Pa.

Odonata.—Dragonflies. Species not in my collection wanted from all parts of the world. N. American species given in exchange, or named by special agreement.—P. P. Calvert, Acad. of Nat. Sciences, Phila., Pa.

Coleoptera and **Lepidoptera.**—I desire to exchange specimens with collectors in the South and West who wish to extend their collections; correspondence solicited.—F. W. Russell, M.D., Winchendon, Mass.

I am desirous of collecting in any of the Orders in Northwestern Ohio; write me.—N. Sager, Jr., Herring P. O., Allen Co., Ohio.

Diurnal Lepidoptera.—I will be pleased to correspond with collectors with view to exchanging Lepidoptera of the world. I usually have 2000 or 3000 mounted duplicates on hand, in perfect condition.—A. G. Weeks, Jr., 360 Washington St., Boston.

Correspondence and exchange of insects desired with young entomologists, especially in the Southern and Western States and Mexico.—Stewart N. Dunning, 43 Niles St., Hartford, Conn.

I desire to dispose of Japanese insects by sale or exchange; correspondence solicited. By permission, refer to Prof. C. V. Riley.—Otoji Takahashi, Tokio, Japan.

Coleoptera.—*Aegialites Fuchsii* Horn, Trans. Am. Ent. Soc. xx, p. 143, 1893. I offer this rare and interesting species in exchange for Coleoptera not in my coll. Address C. Fuchs, 212 Kearney St., San Francisco, Cal.

Lepidoptera.—I desire to obtain eggs or larvæ of *Eacles regalis* and *Sphinx modesta;* will exchange for other good material.—Hermann Aich, 43 Murray St., New York.

Lepidoptera.—I have a large number of duplicates which I offer for sale or exchange. Address G. Cleveland, 17 Elm St., Oneonta, N. Y.

Lepidoptera.—Hybrid cocoons of *Ceanothi* et *Cecropia* in exchange for rare, perfect specimens of Sphingidæ, Arctiidæ, Bombycidæ, Catocalæ and Diurni not in my collection.—Dr. R. E. Kunzé, 606 Third Ave., N. Y.

Lepidoptera.—I have on hand a large supply of duplicates which I wish to exchange for insects of the same order not in my collection. Correspondents especially desired from the southwestern and northwestern part of the U. S. Send list of duplicates to Leigh I. Holdredge, 27 Ford Ave., Oneonta, N. Y., U. S. A.

Lepidoptera.—Several thousand specimens taken in Utah during past Summer for exchange; *Parnasius, Chionobas, Theclas,* etc.; also good specimens from Illinois; all in papers.—A. J. Snyder, North Evanston, Ill.

Lepidoptera.—Wanted, cocoons of *regalis, imperialis, gloveri, io, cecropia, polyphemus, promethea* and others, as well as pupæ,—against Lepidoptera of all parts of the world.—Bernard Gerhard, 1520 Lafayette Avenue, St. Louis, Mo.

Lepdoptera.—Correspondents wanted on Pacific coast, or Colorado, with a view to exchange in Lepidoptera.—Oliver J. Staley, Marshall, Saline County, Mo.

Lepidoptera.—We wish to obtain, either by purchase or exchange, live larvæ or pupæ of *Ecpantheria scribonia* and imagos of *Erebus odora.*—Field Brothers, Milton, Mass.

Wanted.—Coleoptera and Lepidoptera from all sections. Will exchange works on Entomology, Zoology and Botany, and works relating to the languages of the N. A. Indian. Send for list.—Wm. D. Doan, Box, 377, Coatesville, Pa.

Lepidoptera.—Am in want of live papæ of Papilios and Pierids, and imagos in papers, especially varieties from any part of U. S. Can offer in return many rare butterflies from India, Africa, Australia, etc.; also cocoons and imagos of Indian, Chinese and Japanese silk moths.—John Watson, 177 Moss Lane, East Moss Side, Manchester, England.

Lepidoptera.—Three thousand duplicates for exchange. Send list of duplicates. Correspondence solicted.—P. C. Truman, Volga, S. Dakota.

RENEWAL NOTICE.

☞ Those who wish to continue their subscriptions to **Entomological News** for 1894, will please indicate their desire to the Treasurer, **before** January 1st next. No change in price. Subscription Blank enclosed in this number.

COLLECTIONS FOR SCHOOLS, BEGINNERS, AMATEURS, ETC.

I offer at **lowest prices** to Beginners, etc., **collections of Lepidoptera** from smallest to largest number, containing species from Fla., Atl. States, Col. Calif., Can., Mex., Cent. and S. Am., Eur., Asia, etc., embracing principal groups and genera of rarest and other species; all expanded ready for collection, correctly named with exact locality. **Lepidoptera also gratuitously identified.** For particulars, address **Dr. HERMAN STRECKER, P. O. Box 311, Reading, Penna.**

NORTH AMERICAN COLEOPTERA

for sale at reasonable prices. Send for New List—ready about November 15th.

JOHN D. SHERMAN, Jr.,
175 East 71st Street, New York City.

INSECT BOXES,

Cork lined, papered, 9 x 13 inches, absolutely tight, $1.00, with label holder $1.05. Of the size and style made for the U. S. National Museum $1.10. Special sizes to order at correspondingly low prices. Insect Cabinets, of all sizes, at reasonable prices. References for boxes and cabinets: U. S. National Museum, Brooklyn Entomological Society, and many others.

JOHN SCHMITT, 290 Third Ave., Brooklyn, N. Y.

INSECT PINS.

KLAEGER. *Standard make; bright or japanned.*

Sizes No. 00 to 5 in papers of 500 each; No. 6 and larger, 250 each. Sent postpaid to any part of the United States and Canada at $1.05 per thousand in original packages, at $1.25 in broken lots.

CARLSBADER. *Bright or japanned, same price as for* KLAEGER'S.

ENGLISH. *Short, for Micro-Lepidoptera*, per half ounce $1.52 postpaid (about 1450 in a package).

SHEET PEAT. ⅜ x 4 x 12, 53 cents per dozen, postpaid; $3.50 per gross. Express extra.

To colleges and other parties ordering in large quantities, I request the privilege of naming special rates.

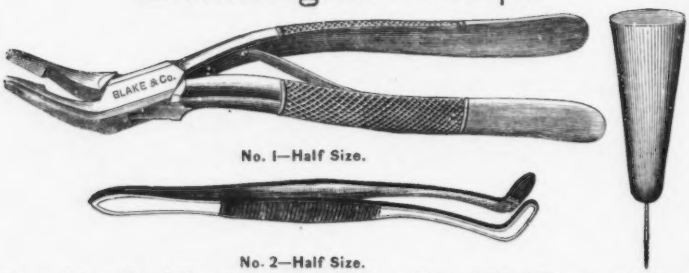
Send 5 cent stamp for full illustrated catalogue to

M. ABBOTT FRAZAR,
93 SUDBURY STREET,
BOSTON, MASS.,

Taxidermist, and dealer in all kinds of Naturalists' Supplies.

P. C. STOCKHAUSEN, ENTOMOLOGICAL PRINTER 55 N. 7TH ST., PHILA. PA.

Entomological Forceps.



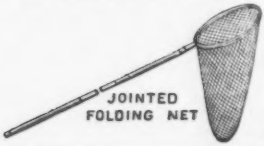
No. 1—Half Size.

No. 2—Half Size.

No. 1, Price, Nickel Plated, each $2.50 | No. 2, Price, Nickel Plated, each $1.50
Sent by mail on receipt of price.

DISINFECTING CONES FOR ENTOMOLOGICAL CABINETS.
Price $1.00 per 100. Postage 10 cents.
Instruments of all kinds for Naturalists made to order.
BLAKE & CO., 55 N. Seventh Street, Philadelphia.

A. SMITH & SONS, 121 NASSAU STREET, NEW YORK.
MANUFACTURERS AND IMPORTERS OF



GOODS FOR ENTOMOLOGISTS,
Klaeger and Carlsbad Insect Pins, Setting Boards, Folding Nets, Locality and Special Labels, Forceps, Sheet Cork, Etc. Other articles are being added, Send for List.

LEPIDOPTERA WANTED.

I desire to obtain, either by purchase or exchange
RARE BUTTERFLIES AND MOTHS
from the Southern, Western and Northwestern parts of the United States in abundant numbers, as well as
Rare Butterflies, Sphingidæ, Bombycidæ, Saturninæ, Cossidæ and Hepialidæ
from Asia, Australia, Africa and South America.
Most liberal terms granted.

B. NEUMOEGEN, 40 Exchange Place, New York, N. Y.

American Butterflies

wanted by exchange or purchase. **Hesperidæ** and **Lycænidæ** especially desired. Many rare duplicates on hand. Butterflies named free of charge.

Dr. HENRY SKINNER,
Academy of Natural Sciences,
Logan Square, Phila., Pa.

JOHN AKHURST,

TAXIDERMIST AND DEALER IN ENTOMOLOGICAL SUPPLIES.

Improved Entomological Forceps.

Fine Carlsbader Insect Pins a specialty. Price-list sent on application.
78 Ashland Place,
Brooklyn, N. Y.